Change and Release Management Procedures
Fermi File Transfer Service (F-FTS)
CD-DocDB-5412

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1 Introduction

The Fermilab File Transfer System (F-FTS) is software which handles the registration, organization and migration of scientific data with the data management and archival storage facilities at Fermilab. The system is employed by many experiments at Fermilab to handle both raw data coming from data acquistion systems as well as simulated and processed data coming from scientific analysis applications.

The F-FTS software stack is treated as an application which is distributed to the experiments as a bundled releases. The experiments provide their own custom configurations for the FTS and are responsible for the operations of each FTS instance they deploy.

2 Feature Requests

Requests for new features to be developed or included in the F-FTS are submitted by users to the Fermilab data management group through use of the FTS issue tracker. The FTS issue tracker is part of the F-FTS project and homed in the Fermilab Redmine system. The Redmine project is found at:

`https://cdcvs.fnal.gov/redmine/projects/filetransferservice`

The list of current issues can be found at:

`https://cdcvs.fnal.gov/redmine/projects/filetransferservice/issues`

Features submitted through the issue tracker are reviewed by the Fermilab Scientific Computing Division's (SCD) Data Management Group. Changes are accepted and scheduled based on the needs of the experiments, the availability of developer effort, technical compatibility with the FTS design and impact. In the event that a feature is recommended for rejection or delay, the requesting experiment or group is contacted and reevaluate the request and reassess the impact.

When new features are complete, the release candidate code is tested using the standard F-FTS test suite and including any new tests related to the inclusion of the new feature.

New features are announced through the release notes associated with each version.

3 Bug Fixes

When errors in the FTS are identified, reporters file bug reports through the issues tracking system (Redmine) located at:

`https://cdcvs.fnal.gov/redmine/projects/filetransferservice/issues`

The reported bugs are evaluated by the Data Management group in terms of severity and impact. Development resources are allocated to resolving the bug and the bug fix/patch is scheduled for inclusion in the next release version of the F-FTS package.

Testing of the fixes are performed using the standard F-FTS test suite prior to release.

Bug fixes are announced through the release notes associated with each version.

4 Software Releases

When new features and bug fixes are ready for release, a new version control tag for the software stack is created and associated with a public release version of the software. The software is built for each supported architecture and packaged into Unix Product Setup (UPS) productions. The software test suite is run on the F-FTS system (through the "make test" invocation) and the results are checked to ensure proper functionality of the system. The UPS products are then declared and deployed to the Unix Products Distribution (UPD)

repository. All prior versions of the product are retained (i.e. the new version does not displace any legacy version of the software).

Once the products are available on the UPD repository, an announcement of the new release is sent to the experiments through the appropriate experiment and liaison mailing lists (listservs). The announcement includes the release notes for the production release.

Experiments are then able to update their F-FTS instances using the standard UPD distribution tool which pulls the version from the official repository. Experiments choose when they initiate their migration to new versions and have the ability to roll back to prior versions if they find incompatibilities between their uses of F-FTS and new versions.

5 Testing

The F-FTS system provides a builtin test suite. The test suite is designed to test the full operational path that the FTS takes files through and services and databases which it interacts with. The test suite is run through the F-FTS build system with the "make test" target. Failures in the test suite are designed to halt the build system and require manual intervention to correct (thus preventing software with a failed test from entering a product for deployment).

6 Configuration

The F-FTS ships with a set of generic configuration files which are intended as a template for the end users to customize their instances off of. These configuration are tested to provide basic functionality of the system and to demonstrate the configuration syntax for typical tasks. When new options are made available in the FTS, the configuration templates are modified to include examples of usage where appropriate.

Configuration files for the production operations of the F-FTS are maintained by the experiments who use the product. Experiments are encouraged to use version control for these files but not required to do so. When an experiment updates between released versions they should read the release notes to know if there are any compatibility issues between the new software versions and older configuration files.